



## Medical School Hotline

### The John A Burns School of Medicine (JABSOM) Status Report on Finances and Contributions

**Sherrel L. Hammar, M.D.**  
Interim Dean

1998 marks the 31st Anniversary of the University of Hawaii John A. Burns School of Medicine (JABSOM). Nearly every year, certain vocal segments of our community raise their clarions calls to partially or completely abolish the medical school. These groups fail to acknowledge how much this School contributes both to the health of Hawaii's people and to the economy of this state.

#### Students:

A vision of the late Governor John A. Burns made it possible for our diverse multi-cultural population of young people of Hawaii, from all socio-economic levels, to have an opportunity to achieve a professional education in Medicine. This medical school has been very successful in fulfilling this mission. Enrolled currently are 226 medical students, 271 post M.D. residents in training, 128 graduate students and 50 undergraduate students. The ethnic composition of each class represents the racial diversity of Hawaii. The first year class of 56 students is made up of 27 women and 29 men; 15 are Japanese, 9 Chinese, 7 Hawaiian, 6 Caucasian, 5 Filipino and 14 mixed ancestry. Forty-nine are Hawaii residents, two are from the mainland, four from Guam and one from Saipan. The majority of this class was selected from 1,228 applicants who graduated from some of the best mainland universities (42) and from UH Manoa (12). All have BA degrees, 8 have Masters degrees and 1 has a Ph.D. Many applied to JABSOM because of the Problem Based Learning Curriculum.

Currently there are over 1,500 JABSOM alumni. Nearly 60% of the physicians in Hawaii are either graduates of JABSOM, the UH Integrated Residency Programs or both.

#### Faculty:

The basic science faculty has been the hardest hit by retirements and resignations in recent years. In 1987-88, there were 70 full-time compensated faculty; presently there are 42 faculty. In the clinical departments there were 58 compensated full-time faculty in 1987-88. Currently there are 129 full-time compensated faculty. With the assistance of 1,139 volunteer faculty in

the basic science and clinical departments, instruction of medical students are maintained at a high level. The Medical School has attracted and retained outstanding academic physicians to the faculty. These faculty and the graduates of residency programs have helped to raise the quality of medical care in this State.

#### Finances:

The Liaison Committee on Medical Education recently granted the medical school full accreditation but expressed grave concerns about its financial stability, particularly related to funds provided by the State. JABSOM has the reputation of being the most underfunded and understaffed medical school of the 125 U.S. and Canadian

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# Do Hawaii Residents Support Physician-Assisted Death? A Comparison of Five Ethnic Groups

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## Abstract

Surveyed were 250 adults in five ethnic groups—Caucasian, Chinese, Filipino, Hawaiian, and Japanese—on questions about physician-assisted death. When asked if there were any conditions under which physician-assisted death should be allowed, 52% said yes, 19% said perhaps, and 29% said no. Differences in response were seen, however, by ethnicity (with less support among Filipinos and Hawaiians), by religious affiliation (with less support among Catholics), and by educational attainment (with greater support among college graduates). Given the controversial nature of this topic, more public education and debate are needed. Meanwhile, physicians are urged to expand discussions with patients on their expectations about and options for end-of-life care.

## Introduction

Several demographic and social trends are converging that make the issues surrounding death and dying very controversial. First, the population is aging, with life expectancy in Hawaii among the highest in the world: 76 for men and 82 for women.<sup>1</sup> Second, medical technology has advanced to the point of allowing us to greatly prolong life artificially, often at great cost and loss of life quality.<sup>2</sup> Third, the cost of health care continues to rise and various forms of health care rationing are being proposed.<sup>3</sup> Finally, we see increased attention to human rights and self-determination, even in dying. Taken together, these issues are forcing us to become more aware of the various options available for end-of-life decision making and advanced planning. While many citizens are advocating for more protection of their "right to die," perhaps an equal number of citizens are concerned about the establishment of policy to protect people from being coerced into refusing treatment or committing suicide.<sup>2,4</sup>

Over the past few decades, a number of surveys on attitudes toward euthanasia have been conducted. For example, in a 1977 study, 65% of white respondents indicated support for legalizing physician-assisted death; this percentage rose to 71% in 1989.<sup>5</sup>

Since then, several states have taken the issue to their polling places and courts. The 1992 California Death with Dignity Act, a voter initiative to legalize physician-assisted death in that state, was defeated by voters by a 54% majority. However in 1994 and again in 1997, Oregon voters approved measures that would allow physicians to assist competent, terminally ill patients commit suicide. Meanwhile, court-upheld prohibitions on assisted death in Washington State and New York were sent to the Supreme Court, challenging the constitutionality of these prohibitions. The U.S. Supreme Court reviewed these cases together and, in June 1997, unanimously held that terminally ill people do not have a constitutional right to physician-assisted suicide. Specifically, the Court found that the New York and Washington state laws (that make it a crime for doctors to give life-ending drugs to mentally competent but terminally ill patients who no longer want to live) did not violate either the "due process clause" or the "equal protection rights" guaranteed under the 14th Amendment to the U.S. Constitution. The rulings in these cases, however, left room for continued debate and future policy initiatives at the state level.<sup>6</sup>

To help states that may want to develop guidelines for physician-assisted death, a nine-member panel of scholars from law, medicine, philosophy, and economics proposed a model statute for the regulation of legalized physician-assisted death.<sup>7</sup> The model act suggests that physician-assisted death be allowed for individuals who are at least 18 years of age, who have "a terminal illness or an intractable and unbearable illness" (as verified by the primary and a consulting physician), and who are mentally competent to make decisions. Assurances are required that the patient fully understands his/her prognosis and treatment (including palliative care options), that he/she has the opportunity to consult a social worker about available services, and that he/she be advised to inform his/her family. There must be documentation from a psychiatrist or psychiatric social worker that the request is not a result of "undue influence" or "a distortion of the patient's judgment due to clinical depression or any other mental illness." The request must be witnessed by at least two adults (one of which is unrelated and has nothing to gain by the death), "repeated without self-contradiction on two separate occasions at least 14 days apart," and recorded on paper, audiotape, or videotape.<sup>7, 26-29</sup>

Despite what appears to be growing support of the legalization of physician-assisted death, it is important to note that this concept does not carry the same appeal in all ethnic groups. For example, a number of authors have found that the level of support among African Americans is much lower than among white Americans, by as much as 20%.<sup>5, 8-10</sup> Given Hawaii's multi-cultural population, is it

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safe to assume that different cultures have different outlooks on this issue? In previous research by the author, focus groups and key informant interviews were conducted to begin exploring differences among Hawaii's ethnic groups on death practices and end-of-life issues.<sup>11-12</sup> Differences were seen among, and within, ethnic groups based on the respondent's religious beliefs, level of education, experience with artificial life prolongation in family members, and number of generations his/her family had been in the U.S. Focus group questions asked about euthanasia, but not physician-assisted death per se.

To assist Hawaii with its own debate of this issue, Governor Benjamin Cayetano established a Blue Ribbon Panel on Living and Dying with Dignity in February 1997. Its charge was to discuss issues related to death and dying, including physician-assisted death, and make recommendations for policy development. To inform the Governor's committee and future debate in Hawaii, this study built on the earlier, qualitative work to collect opinions from Hawaii residents about physician-assisted death and potential safeguards if this end-of-life option becomes legal.

## Method

The study design called for surveys to be administered to 50 adults (25 older adults and, for each, an adult child) in each of five ethnic groups—Caucasian, Chinese, Filipino, Hawaiian, and Japanese—for a total sample of 250. Student interviewers were of the same ethnic background as the group they were assigned to interview except for the student assigned to interview the Hawaiian group; he was a young Caucasian born and raised on the Windward side. Interviewers first identified older adult participants through senior centers and religious organizations in neighborhoods with high proportions of the ethnic group, e.g., Japanese seniors were recruited through centers and temples in the Moiliili area, Filipinos from Waipahu, Hawaiians from Waimanalo and Papakolea, etc. Participating seniors were then asked to identify an adult child willing to participate.

Ease of recruiting varied by group. Caucasian and Japanese participants were easily identified, although Caucasians preferred being interviewed in person while Japanese preferred to be interviewed by phone. The Filipino student interviewer lived in Waipahu and had no problem working through her family and neighborhood connections to recruit participants. Hawaiian and Chinese participants were harder to recruit; the two students interviewing these groups estimated that they asked four adults for each one who agreed. The Chinese group interviewer reported that the high refusal among Chinese was due to discomfort with the topic. The student interviewing Hawaiians reported high levels of distrust, which took time to overcome. In nine cases, a direct parent-child pair could not be interviewed, sometimes because the adult child did not have time to participate or lived out-of-state and did not respond to a mailed survey. In these cases, an effort was made to interview a niece, nephew, or adult grandchild of the older adult. Data collection was completed within 5 months and useable surveys were obtained from 125 seniors and 120 adult children.

The full survey instrument included 85 questions in four parts. Part 1 consisted of questions about age, gender, birthplace, educational attainment, marital status, living arrangements, number of children, religious affiliation, self-rated health, and experience with

life-threatening illness among family and close friends. In Part 2 participants were asked if they had any advance directives, such as a living will, and their reasons for completing them or not. Part 3 asked respondents how strongly they agreed or disagreed (5-point Likert scale) with statements about advance planning and decision making, e.g., it's bad luck to plan for death, a person should prepare by writing a living will, a person can trust family to make the right decisions, etc. The final section, Part 4, focused on physician-assisted death, starting by giving a definition. Then respondents were asked: Is there any condition under which physician-assisted death should be allowed? Possible responses were yes, perhaps, and no. If the participant answered no, questioning was concluded. If the participant answered yes or perhaps, another 18 questions were asked about possible conditions, e.g., should the requester be over 18? be mentally competent? have a terminal illness? be in pain? have a diagnosis for which physical or mental deterioration is expected? need a second opinion? need witnesses to the request? etc. Another 11 questions asked about conditions in which a request for physician-assisted death should not be honored, e.g., if the family disagreed, if the physician disagreed, etc. At the conclusion of the interview, the participant was thanked and offered a \$10 Longs Drug Store gift certificate. Data management and preliminary analysis were done in Epi-Info, a public-domain data management program produced by the Centers for Disease Control. Reported here are the bivariate analyses of responses related to physician-assisted death.

## Findings

**Demographics.** The demographic characteristics of the sample are provided in Tables 1a (by ethnicity) and 1b (by generation). The differences found among the ethnicities and between generations were not surprising, e.g., the 125 seniors had a higher mean age than the 120 adult children (73 vs. 42 years) and a larger proportion of adult children had college degrees (29% of seniors vs. 65% of adult children). Among ethnicities, the Filipino group was most likely to be married (82% vs. 42-59% of other groups) and least likely to have experienced a life threatening illness themselves or within their families (30% vs. 67-94% of other groups). Only 30% of the Filipino group were college graduates, compared to 38% of Hawaiians, 45% of Japanese, 56% of Caucasians, and 60% of Chinese. As expected 90-98% of the Japanese and Hawaiian respondents were Hawaii-born, compared to 75% of Chinese, 30% of Filipino, and only 23% of Caucasian respondents. In terms of religious affiliation, 88% of Filipinos were Catholic, 59% of Japanese were Buddhists, and the majority of others were Protestant. It is interesting to note that a number of individuals claimed no religious affiliation—4% of Caucasians, 10% of Hawaiians, 14% of Japanese, and 27% of Chinese. While the selection of survey participants was non-random, ethnic distributions for religious affiliation, educational attainment, and birthplace within the sample are in line with state averages. The greater proportion of female than male respondents is also not surprising, as more females than males survive to old age and elders in our sample were more confident that their daughters, rather than their sons, would agree to the second family interview.

**Physician-Assisted Death.** When asked if there were any conditions under which physician-assisted death should be allowed, 52% of the 245 respondents said yes, 19% said perhaps, and 29% said no. Tables 2a and 2b display the responses to the question by ethnicity

**Table 1a.—Demographic characteristics of the sample, by ethnicity (N=215)**

	CA n=48	CH n=48	FI n=50	NH n=50	JA n=49	p- val
Mean age (yrs)	61	56	55	57	58	ns
% female	73%	58%	74%	66%	67%	ns
% married	58%	54%	82%	42%	59%	.04
% Hawaii-born	23%	75%	30%	98%	90%	.00
% college grad	56%	60%	30%	38%	45%	.00
% exp lifethreat	67%	74%	30%	94%	80%	.00
<u>Religion</u>						.00
Catholic	27%	13%	88%	26%	0	
Oth Christian	65%	54%	12%	64%	27%	
Buddhist	0	6%	0	0	59%	
None	4%	27%	0	10%	14%	

and generation, respectively. The responses varied significantly by ethnicity. Specifically, the Filipino and Hawaiian groups were less likely to say “yes” (26% and 46%, respectively) and more likely to say “no” (54% and 44%, respectively) than the other groups. The Japanese respondents were most supportive, with 71% saying “yes” and only 8% saying “no.” About 60% of the Caucasian and Chinese groups said “yes” but about 20% of each of these groups also said “no.” No significant differences were seen in responses by generation.

**For Whom is Physician-Assisted Death Appropriate?** As noted earlier, only individuals who answered “yes” or “perhaps” were asked for their opinions about the type of patients who should be permitted to request physician-assisted death and possible safeguards that should be required if physician-assisted death were legal in Hawaii. These included 38 of 48 (79%) of the Caucasians, 39 of 48 (82%) of the Chinese, 23 of 50 (46%) of the Filipinos, 27 of 50 (55%) of the Hawaiians, and 45 of 49 (91%) of the Japanese. By generation, 82 (66%) of the seniors and 90 (77%) of the adult children answered these further questions. To show the responses to the more detailed questions about physician-assisted death, Tables 3, 4, and 5 present two percentages: 1) those who answered “yes” as a percentage of those who were asked the question (first row of numbers) and 2) those who answered “yes” as a percentage of the total sample (second row of numbers).

For example, as shown in Table 3, very few of the respondents, regardless of ethnicity, believed that a person who was depressed should be allowed to pursue physician-assisted death. The Chinese group had a small, but significantly larger, proportion who approved of physician-assisted death for people with depression—21% of those Chinese who responded to the question, representing 17% of the entire Chinese sample. On the other hand, the majority of the Caucasian, Chinese, and Japanese groups felt that a person with a terminal illness accompanied by untreatable pain should be allowed to pursue physician-assisted death. For example, 90% of Chinese

**Table 1b.—Demographic characteristics of the sample, by generation (N=215)**

	Seniors n=125	Adult Children n=120	p- value
Mean age (yrs)	73	42	.00
% female	62%	73%	ns
% married	55%	63%	ns
% Hawaii-born	58%	63%	ns
% college grad	29%	65%	.00
% exp lifethreat	65%	65%	ns
<u>Religion</u>			ns
Catholic	31%	31%	
Other Christian	49%	43%	
Buddhist	14%	13%	
None	6%	13%	

**Table 2a.—Are there conditions under which physician-assisted death should be permitted, by ethnicity?**

	CA n=48	CH n=48	FI n=50	NH n=50	JA n=49	p- val
Yes	58%	65%	26%	46%	71%	.00
Perhaps	21%	17%	20%	10%	21%	
No	21%	18%	54%	44%	8%	

**Table 2b.—Are there conditions under which physician-assisted death should be permitted, by generation?**

	Seniors n=125	Adult Children n=120	p- val
Yes	49%	58%	ns
Perhaps	17%	18%	
No	34%	24%	

who answered the question (representing 73% of the entire sample of Chinese) felt that this person should be allowed to get help to die. While 78% of the Hawaiians who answered this question also agreed, that represented only 42% of the full Hawaiian sample (because only 27 of the 50 Hawaiians answered these questions). Small percentages of Filipinos agreed—35% of those who answered the question, representing 16% of the entire Filipino sample. Looking generally at Table 3, it appears that Filipinos and Hawaiians were less likely than the other three groups to agree that physician-assisted death should be allowed. In all groups, however, respondents were most likely to see physician-assisted death as appropriate

**Table 3.—A should a person be allowed to get help to die in these conditions, by ethnicity? (% yes)**

	CA n=38 n=48	CH n=39 n=48	FI n=23 n=50	NH n=27 n=50	JA n=45 n=49	p- val
Term, pain						
-answerers	76%	90%	35%	78%	84%	.00
-full sample	60%	73%	16%	42%	77%	.00
Term, no pain						
-answerers	24%	33%	22%	19%	35%	ns
-full sample	19%	27%	10%	10%	32%	.02
Not Term, pain						
-answerers	63%	59%	22%	63%	51%	.02
-full sample	50%	48%	10%	34%	47%	.00
Phy dis, now						
-answerers	68%	67%	30%	41%	58%	.01
-full sample	54%	54%	14%	22%	53%	.00
Phy dis, now						
-answerers	42%	62%	26%	11%	44%	.00
-full sample	33%	50%	12%	6%	40%	.00
Ment dis, later						
-answerers	39%	62%	26%	19%	49%	.00
-full sample	31%	50%	12%	10%	45%	.00
Depression						
-answerers	3%	21%	0	0	11%	.02
-full sample	2%	17%	0	0	10%	.05

for individuals in pain and least likely to see it as appropriate for individuals with depression. Responses to these questions were also compared between seniors and adult children, revealing no significant differences (not shown in a table).

**Who Should Agree with the Request?** Tables 4a and 4b presents the answers to questions about who should agree with the person's request for physician-assisted death. Significant inter-ethnic differences are shown in Table 4a, with the Japanese group most interested, and the Hawaiian group least concerned with, having physicians and spouses agree with the decision. None of the groups were very concerned about having a psychiatrist agree (10-30%) or having their children agree (8-33%). Almost half of the Chinese also said that "no one" should have to agree with the patient's decision, i.e., that the patient's decision should be honored even if no one else agreed with it. Table 4b presents the answers to these questions by generation, revealing a number of significant differences. For example, the seniors were more likely than their adult children to want agreement from their physicians, spouses, and children.

**Safeguards.** Table 5 presents how the five ethnic groups responded to questions about assuring that a person requesting physician-assisted death understands all the options. In general, individuals who responded to this question believed that the patient should be at least 18 years old and mentally competent and that his/her wishes should be expressed repeatedly, in front of witness, and put in writing. About half of the answerers agreed that the person should be seen by a psychiatrist and about half of the Filipino, Hawaiian, and Japanese respondents felt that the person should be counseled by his/her minister as well. A third of respondents were supportive of having the person try anti-depressants and about half felt the

**Table 4a.—Who should agree with the person's request for physician-assisted death, by ethnicity? (% yes)**

	CA n=38 n=48	CH n=39 n=48	FI n=23 n=50	NH n=27 n=50	JA n=45 n=49	p- val
Primary MD						
-answerers	63%	44%	43%	33%	77%	.00
-full sample	50%	36%	20%	18%	71%	.00
2nd MD						
-answerers	58%	51%	35%	44%	60%	.04
-full sample	46%	42%	16%	24%	55%	.00
Psychiatrist						
-answerers	24%	21%	22%	22%	33%	ns
-full sample	19%	17%	10%	12%	30%	ns
Spouse						
-answerers	47%	51%	48%	19%	58%	.02
-full sample	37%	41%	22%	10%	53%	.00
Children						
-answerers	32%	38%	39%	15%	36%	.03
-full sample	25%	31%	18%	8%	33%	.05
No one						
-answerers	37%	59%	35%	44%	36%	.00
-full sample	29%	48%	16%	24%	33%	.02

patient should try increasing pain medications before proceeding. (The Filipino group was least supportive of pharmaceutical interventions.) Small percentages in each group supported the idea of a waiting period. A common comment was "after you have the person do all those other things, a waiting period is unnecessary." There were no significant differences by generational group and so these data are not shown in a table.

## Discussion

The data suggest that Hawaii's major ethnic groups have different responses to the legalization of physician-assisted death, with greater support seen among Chinese, Japanese, and Caucasian residents and less support seen among Filipino and Hawaiian residents. On first pass, it is interesting to note that the level of acceptance among groups is roughly related to the groups' life expectancies. Specifically, Chinese and Japanese in Hawaii have the longest life expectancy, while Hawaiians have the shortest.<sup>1</sup> On the other hand, the Filipino group, which is the third most longevous of the five groups, had a very low acceptance level, and this is most likely attributable to the high percentage of Filipinos who are Catholic. In fact, a separate analysis of religion and support of physician-assisted death showed that Catholics were more likely to say "no" while Buddhists and Protestants were more likely to say "yes" ( $p<.001$ ). The "yes" group was also likely to have more years of schooling than the "no" group ( $p<.001$ ). Unexpectedly, few differences were seen when the data were analyzed by generation, i.e., seniors vs. adult children. Future multivariate analysis of these data will examine the relative effects of ethnicity, religion, education, and experience with life-threatening illness in self and loved ones on attitudes toward physician-assisted death.

Also of interest are some of the details about who should be allowed to get help to die and what safeguards should be put in place.



**Table 4b.—Who should agree with the person's request for physician-assisted death, by generation? (% yes)**

	Seniors n=82 n=125	Adult Children n=90 n=120	p- val
Primary MD -answerers -full sample	70% 46%	42% 32%	.00 ns
2nd MD -answerers -full sample	65% 43%	40% 30%	.00 ns
Psychiatrist -answerers -full sample	27% 18%	23% 17%	ns ns
Spouse -answerers -full sample	58% 38%	36% 27%	.00 ns
Children -answerers -full sample	44% 29%	22% 17%	.01 ns
No one -answerers -full sample	42% 28%	43% 32%	ns ns

The largest proportions of respondents felt that physician-assisted death was acceptable for an individual with untreatable pain, especially if they also were terminally ill. This opinion is in line with the model statute described above.<sup>7</sup> There was very little support for physician-assisted death for depression, which is in concurrence with the model statute and other pro-euthanasia documents that call for a psychiatric evaluation to rule-out depression in requesters.<sup>3,7</sup> This issue is more controversial in the Netherlands where only 3% of patients who request help to die are referred for psychiatric evaluation and where cases in which individuals have been helped to die because they had "intractable depression" have been reported.<sup>13-14</sup> It is gratifying, then, that almost 50% (range 32 to 63%) of respondents in the Honolulu study felt that a requester should consult with a psychiatrist and 34% (range 22 to 54%) felt that a requester should try anti-depressants before proceeding.

Methodologically, the study had several limitations. First, the sampling was not random. Participants were volunteers, recruited through formal organizations in Hawaii's various communities, and therefore were likely to differ from the general population. For example, that the older adults were participants in senior centers and religious organizations probably meant that they represented a healthy and socially active segment of the older adult population for whom these questions might be somewhat academic. Their children were also likely to be healthy. Participants self-selected to be interviewed, and it is suspected that those adults who were uncomfortable with the subject matter, unsure of their feelings about it, or distrustful of the survey process or the topic were likely to refuse. Also, the sample included no residents of the Jewish faith, in part because the Caucasian interviewer had more than enough volunteers before having a chance to recruit participants through Temple Emanu-El. Finally, interviewers reported that the ordering of questions may have created a bias toward answers that upheld an

**Table 5.—How can we make sure this person understands all the options, by ethnicity? (% yes)**

	CA n=38 n=48	CH n=39 n=48	FI n=23 n=50	NH n=27 n=50	JA n=45 n=49	p-val
At least 18 yo -answerers -full sample	63% 50%	51% 41%	78% 36%	62% 33%	66% 61%	ns .03
Competent -answerers -full sample	82% 65%	85% 69%	87% 40%	85% 46%	87% 80%	ns .00
Psychiatrist consult -answerers -full sample	32% 25%	56% 46%	43% 20%	63% 34%	51% 47%	.03 .04
Relig consult -answerers -full sample	34% 27%	38% 31%	52% 24%	52% 28%	58% 53%	ns .03
Inc pain meds -answerers -full sample	52% 41%	51% 41%	43% 20%	63% 34%	53% 49%	.01 .03
Anti-depress -answerers -full sample	34% 27%	28% 23%	22% 10%	54% 29%	40% 36%	.00 .04
Wish written -answerers -full sample	87% 69%	74% 60%	96% 44%	92% 50%	87% 80%	.05 .01
Wish witness -answerers -full sample	74% 59%	77% 63%	91% 42%	81% 44%	71% 65%	ns .05
Wish repeat -answerers -full sample	50% 40%	42% 34%	65% 30%	41% 22%	51% 47%	ns .04
Wait period -answerers -full sample	34% 27%	38% 31%	26% 12%	22% 12%	36% 33%	.00 .05

individual's right to free choice, rather than answers that reflected a greater concern for consumer protection. Thus, the survey results probably overestimate the acceptability of physician-assisted death in the state. A next step would be to estimate support of physician-assisted death in the general population through a random sample phone survey, perhaps through the Hawaii Health Survey or a separately-funded effort.

Despite limitations, the data suggest that different ethnic groups have different feelings about the acceptability of physician-assisted death. From the high turn-down rate, it is also expected that individuals in some groups have not even begun to think about physician-assisted death as an end-of-life option. The recommendation, then, is for more education and discussion about the issue, especially among the Filipino group in which opposition is high and among the Hawaiian and Chinese groups in which our sampling was most biased due to high refusal rates. Given that the Governor's Blue Ribbon Panel allowed itself a year to review the issues, it seems reasonable that the rest of the population will need time for education and discourse as well.

Regardless of how quickly Hawaii and other states move into the debate about physician-assisted death, individual physicians need to increase their efforts to discuss end-of-life options with their patients. Research suggests that outpatients want their doctors to initiate discussions about advance planning, and that these discussions should occur after their physician-patient relationship is established but while the patient is still well.<sup>15</sup> Conversations should address values and expectations related to life and its artificial prolongation; knowledge and thoughts about palliative care options, such as hospice; and completion of living wills, documents that assign proxy, and code-status forms for hospitalized patients. There is empirical evidence to suggest that these discussions alone provide a "long-lasting sense of improved understanding and being cared for" among patients, as well as giving physicians vital information about their patients' treatment preference.<sup>15, 1066</sup>

## Acknowledgments

Acknowledgments are tendered to Robin Oliver, MPH, Project Coordinator, and to student interviewers Andrew Hartnett, BA, Theresa Pang, BA, Leilani Pascual-Almazan, BA, and Aileen Uchida, MPH. Thanks also to Carol Matsumiya and Kimberly Sugawa-Fujinaga of the Center on Aging for administrative support, Virginia Tanji, MSLS for assistance searching the literature, and James H. Pietsch, JD, University of Hawaii Elder Law Program for his review and comment. Finally, appreciation is extended to the Hawaii

residents who participated in the survey. An earlier version of this paper was presented to the Governor's Blue Ribbon Panel on Living and Dying with Dignity in September 1997.

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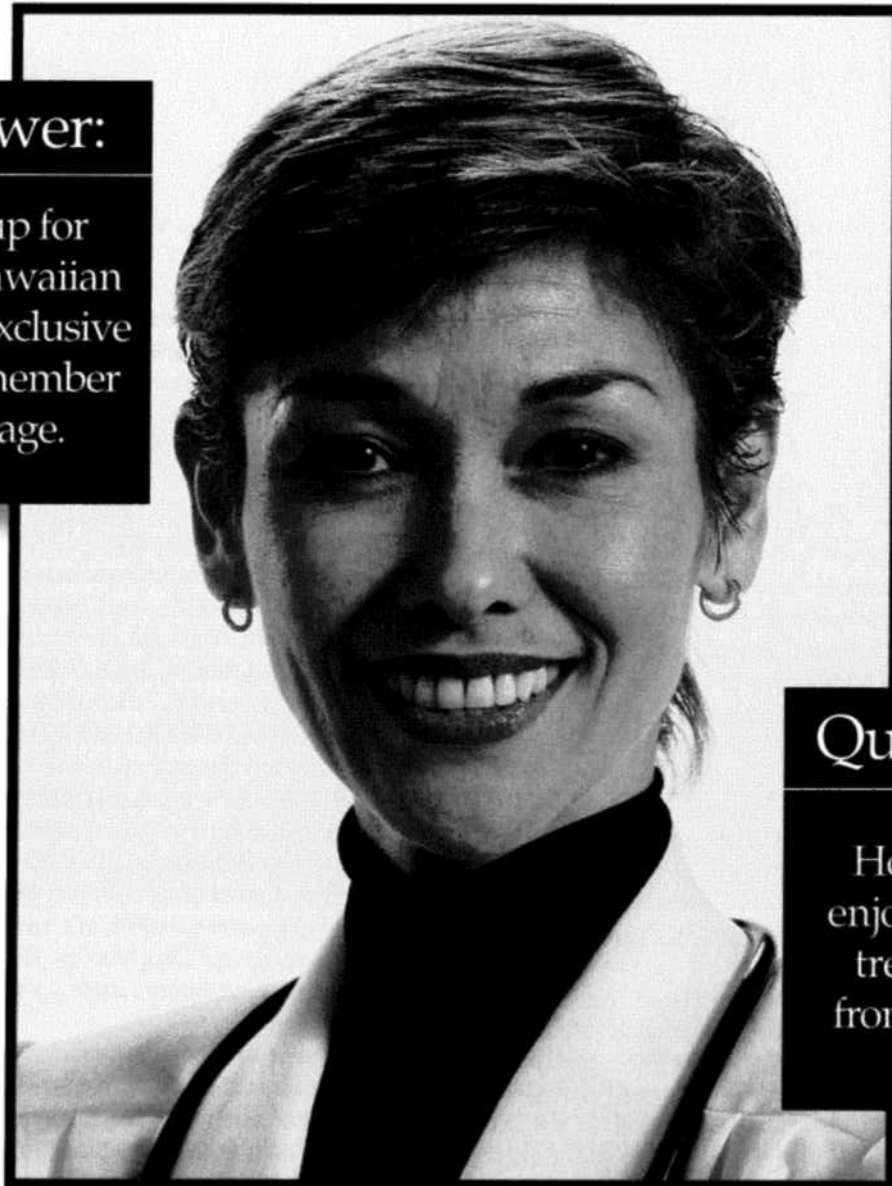
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# A Quantitative Study of Environmental Asbestos Exposure in Honolulu

Hong-Yi Yang MD\*, PhD, Judith Wishart MD, Yolanda Y.L. Yang PhD,  
James Lumeng MD, Young K. Paik MD

*The increased use of asbestos in various industries in past decades has led to increases in environmental asbestos pollution. Incidental exposure to asbestos is inevitable, and has generated public concern. We performed the following study aimed at determining the level of environmental asbestos exposure in Honolulu, and our results indicate that the levels of environmental asbestos in Honolulu are the lowest in the nation.*

## Introduction

Asbestos consists of a group of widely used fibrous silicates that are well known for causing adverse health effects to exposed occupational workers.<sup>1-2</sup> Asbestos bodies are asbestos fibers coated with iron and protein, and are unique histologic markers for asbestos exposure. These "curious" bodies were first described in patients with asbestosis about 50 years ago.<sup>3</sup> Since then, it has been well recognized that the asbestos body content in the lung is correlated with the degree of asbestos exposure and is considered a necessary finding in establishing the diagnosis of asbestos-related diseases.

The increased use of asbestos in consumer products and in construction materials in past decades has increased the chances of incidental, non-occupational exposure. Studies have confirmed that incidental exposure to asbestos dusts in the general population is also on the rise.<sup>4-5</sup> The health effects of incidental asbestos exposure, particularly in regard to the risk for mesothelioma, is still unknown<sup>6</sup> and has generated much public concern.<sup>7-8</sup>

In Honolulu, the naval shipyard at Pearl Harbor was the main source of local occupational asbestos exposure during the second world war<sup>9</sup> when exposure control was not strictly regulated. In recent years, autopsies have been frequently requested to document

previous asbestos exposure of diseased workers. In order to determine the level of incidental, environmental asbestos exposure in our community and to establish a control background level of non-occupational asbestos exposure we sampled lung tissues of random autopsies from St. Francis Medical Center in Honolulu and quantified the asbestos bodies in these lung tissues. In this study, asbestos body counts from patients with known histories of occupational exposure to asbestos from Pearl Harbor naval shipyard are included for comparison.

## Materials and Methods

Lung tissues from random autopsies from St. Francis Medical Center at Liliha, Honolulu were collected during a 10-year period from 1979 to 1988. The data obtained from each autopsy report included age, race, sex, occupational history, history of smoking, and presence or absence of asbestos related diseases. A total of 167 autopsies of patients without histories of occupational exposure to asbestos dusts and 18 cases of patients with known histories of occupational exposure to asbestos were analyzed. Of the 167 cases without occupational exposure to asbestos, 107 were male and 60 were female. Ages ranged from 15 to 93 with a mean age of 64. The ethnic backgrounds of these 167 cases were recorded as follows: 48 Caucasian, 40 Japanese, 31 Filipino, 18 Hawaiian, 15 Chinese, and 13 other or mixed race. Data from 18 patients with known histories of occupational exposure to asbestos were tabulated separately.

## Extraction of Asbestos Bodies

Lung tissues were sampled from all 5 lobes. Approximately 10 gm. from each lobe was fixed in a 10% buffered formaldehyde solution. The lung tissue was minced, mixed, and pooled. Asbestos bodies were then extracted from 5 grams of the pooled lung tissue by Smith and Naylor's digestion method.<sup>10</sup> Briefly, the sampled lung tissue was dissolved in a domestic laundry bleach (5.25% sodium hypochlorite). The digested tissue sediment was then washed with chloroform and ethanol to remove organic substances. Following centrifugation, the final sediment that contained asbestos bodies was filtered onto a 5 µm pore size Millipore filter. Asbestos bodies were counted directly under a light microscope.

Only morphologically typical asbestos bodies, i.e., those bodies with a characteristic central transparent fiber core and a golden-brown beaded or segmented iron-protein coat, were counted. Non-asbestos ferruginous bodies or "pseudoasbestos bodies" were carefully excluded from the counting. These non-asbestos ferruginous bodies appeared as aggregates of iron-protein particles without a transparent fiber core or with an irregular non-transparent core.<sup>11</sup>

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Supported by Leahy Foundation Research Grant

**Table 1.—The Asbestos Body Counts of Non-occupational Group (167 cases)**

Asbestos Bodies per Gram of Lung Tissue	Number of Cases Percentage of Total
0	58 (34.7%)
1 - 5	79 (47.3%)
6 - 10	18 (10.7%)
11 - 20	4 (2.4%)
over 20	4 (2.4%)

**Table 2.—Non-Occupational Cases with More Than 10 Asbestos Bodies per Gram of Lung Tissue**

Age	Sex	Occupation	Asbestos Body Count
72	M	Fireman	18
49	M	Mortgage Co. Clerk	12
76	F	Housewife	60
72	M	Electrician	70
74	M	Mining Engineer	20
61	M	Security Guard	21
78	F	School Teacher	25
56	M	Police Officer	11

Diluted aliquots were used when the counts were unusually high and difficult to count.

## Results

### Environmental Exposure of Asbestos

#### 1. Asbestos Body Counts in the Lungs

Asbestos bodies were found in 108 (64.6%) of the 167 cases without occupational history of asbestos exposure. In Table 1, the distribution of asbestos body counts in the group without occupational exposure to asbestos is shown. Fifty eight cases (34.7%) showed no detectable asbestos bodies in their lungs, 79 cases (47.3%) had 1 to 5 asbestos bodies, 18 cases (10.7%) had 6 to 10 asbestos bodies, 4 cases (2.4%) had 11 to 20 asbestos bodies, and 4 cases (2.4%) had more than 20 asbestos bodies per gram of lung tissue.

We were particularly interested in further characterizing the 8 cases with greater than 10 asbestos bodies per gram of lung tissue. In Table 2, their occupations, age, sex, history of smoking, cause of death, and asbestos body counts are listed. Six were males and 2 were females. Their occupations consisted of a fireman, a mortgage company clerk, an electrician, a mining engineer, a school teacher, a police officer, a security guard and a housewife. One person (the fireman) died of lung cancer, and another (the mining engineer) died of chronic obstructive pulmonary disease. None were diagnosed with asbestosis or mesothelioma.

#### 2. Age and Sex Distribution

In Table 3, the age and sex distribution of the cases without occupational exposure to asbestos are listed. Asbestos bodies were

**Table 3.—Age and Sex Distribution**

Age	Number of Cases			Cases with Asbestos Bodies		
	Male	Female	Total	Male	Female	Total
under 40	11	2	13	4	1	5
41 - 50	9	4	13	4	2	6
51 - 60	19	14	33	13	6	19
61 - 70	23	16	39	16	8	24
71 - 80	32	17	49	28	10	38
over 80	13	7	20	11	5	16
Total	107	60	167	76	32	108

**Table 4.—Smokers and Non-smokers (non-occupational)**

Smoking History	Sex:	# Cases	# Cases with A B*	% ±
Smokers:	Male	53	45	84.9
	Female	18	13	72.2
	Total:	71	58	81.7
Non-smokers:	Male	35	19	54.3
	Female	30	13	43.3
	Total:	65	32	49.2
Information not available:	Male	19	12	63.1
	Female	12	6	50.0
	Total:	31	18	58.1

\*AB = asbestos bodies

Average number of asbestos bodies per gram of lung tissue

Smokers: = 4.5 asbestos bodies/gm.

Non-smokers: = 3.1 asbestos bodies/gm.

found in 76 (71%) of the 107 males and in 32 (53.3%) of the 60 females. Using the chi-square test, the difference between the males and the females is statistically significant ( $p < 0.05$ ). In addition, there was an increased number of positive cases (defined as at least one asbestos body per gram of pooled lung tissue) in the older age groups. Below the age of 40, asbestos bodies were found in 5 out of 13 cases, a positive rate of 38%. The positive rate increased to 46% in the age range of 41 to 50, to 57% in the age range of 51 to 60, to 61.5% in the age range of 61 to 70, to 77.5% in the age range of 71 to 80, and to 80% in the group over the age of 80. The analysis failed to show significant differences based on ethnicity.

#### 3. Smokers versus Non-Smokers

In Table 4, the differences of asbestos body counts between the smokers and non-smokers are listed. Of the 167 cases without occupational exposure to asbestos, 71 (53 males and 18 females) were cigarette smokers, 65 (35 males and 30 females) were non-smokers, and in 31 cases (19 males and 12 females) information on smoking was not available. Asbestos bodies were found in 58 (81.7%) of 71 smokers and 32 (49.2%) of 65 non-smokers demonstrating a statistically significant difference between smokers and

Table 5.—Patients with Known Occupational Asbestos Exposure

Case No.	Age	Asbestos Body Count*	Malignancy (cause of death)
1.	65	1200	Ca of the lung
2.	68	320	Mesothelioma
3.	45	125	Ca of the lung
4.	69	1200	Mesothelioma
5.	65	600	Ca of the larynx
6.	56	8060	Mesothelioma
7.	84	1000	Ca of the lung
8.	74	45	
9.	65	1000	Ca of the lung
10.	58	37	
11.	63	1050	Ca of stomach
12.	65	900	Ca of the lung
13.	63	120	
14.	80	100	Mesothelioma
15.	62	930	Ca of the lung
16.	66	116	Mesothelioma
17.	65	1575	
18.	54	390	Ca of the lung

\*Per Gram of Lung Tissue.  
All 18 patients were male

non-smokers (Chi-square test,  $p < 0.05$ ). In addition, a greater number of asbestos bodies were detected in the lungs of smokers than non-smokers, as smokers had an average of 4.5 and non-smokers had an average 3.1 asbestos bodies per gram of lung tissue.

#### Occupational Group

Asbestos body counts and clinical data from the 18 patients with known histories of occupational exposure to asbestos are summarized in Table 5. The counts varied from 37 to 8060 per gram of lung tissue. In Figure 1, a graph of the total asbestos body counts from cases with and without histories of occupational exposure to asbestos is shown. An overlap is noted where two cases with histories of occupational exposure to asbestos had low counts of 37 and 41 asbestos bodies, and where two cases without histories of occupational exposure to asbestos (a housewife and an electrician) had high counts of 60 and 70 asbestos bodies per gram of lung tissue. The average overall count for the cases with occupational exposure was 1043 and for the cases without occupational exposure was 3.4 per gram of lung tissue.

Clinically, all 18 patients with histories of occupational exposure to asbestos had fibrotic pleural plaques, and 14 of the 18 had peribronchiolar fibrosis and a diagnosis of asbestosis. Five of the 18 patients died of mesothelioma and 7 of the 18 died of lung cancer. In contrast, of the 167 non-occupational cases, none died of mesothelioma, 4 died of lung cancer.

#### Discussion

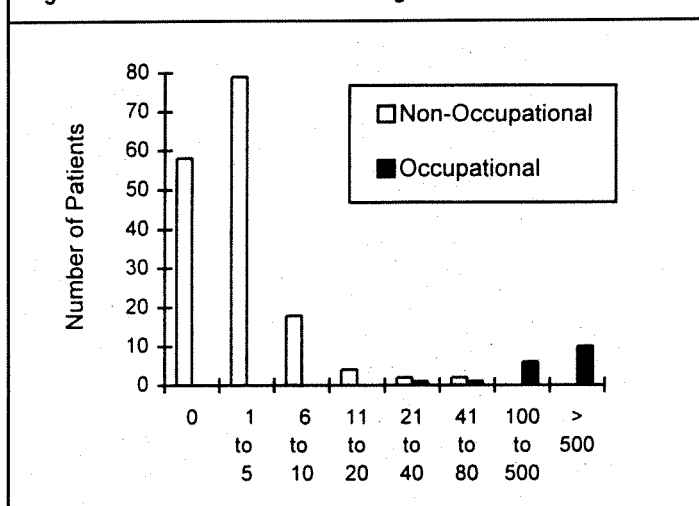
In this study the quantification and distribution of asbestos bodies in patients with histories of occupational exposure to asbestos are comparable to data reported by others.<sup>12-13</sup> Two of 18 cases had less than 100 asbestos bodies per gram of lung tissue, and the remaining cases had asbestos body count up to 8060, with an overall average count of 1,043 asbestos bodies per gram of lung tissue. Fourteen of the 18 patients had malignancies, including 7 cases of lung cancer, 5 cases of mesothelioma, one case of adenocarcinoma of the

Table 6.—Comparison of Environmental Asbestos Exposure in US

Investigator	Location	# Cases	% (+)
Utidian et al*	Pittsburgh	100	97
Rosen et al*	N.Y. City	86	93
Breedin and Buss*	N. Carolina	100	93
Churg and Warnock*	Chicago	252	96
Bhagavan and Koss*	Baltimore	145	91.1
Yang et al.	Honolulu	167	64.6

\*References (4, 12, 14, 15, 16)

Fig 1.—Asbestos Bodies Per Gram Lung Tissue



stomach and one case of squamous cell carcinoma of the larynx. The high incidence of malignancy may be due to high alert in connection with asbestos exposure as these cases were requested for autopsy to establish evidence of asbestos exposure for litigation and compensation purposes.

In the non-occupational group, asbestos bodies were found in 108 (64.6%) of the 167 cases. The detection rate of 64.6% is significantly lower than that of several other reported similar studies as seen in Table 6.<sup>4,12,14-16</sup> In other studies using the same digestion method, asbestos bodies were detected in more than 90 % of the population from many different geographical areas in the United States and one study by Breedin and Buss included both urban and rural populations.

The results suggest that environmental (non-occupational) exposure to asbestos is extremely low in Honolulu. This may result from the relative isolation of Honolulu from industrial sources of asbestos, as well as from the effects of ocean air and trade winds in constant cleaning of the environment. Two persons from our non-occupational group, an electrician and a housewife, had relatively high asbestos body counts (70 and 60 asbestos bodies per gram of lung tissue respectively), which are nevertheless within the cut off point of 100 suggested for non-occupational exposure by Churg and Warnock.<sup>12</sup> The electrician actually belongs to the group of "secondary asbestos workers" who use asbestos-containing products in their

jobs,<sup>12</sup> and this may explain his relatively high asbestos body counts. The asbestos source of the housewife was not clear. Neither of these 2 persons was diagnosed with any asbestos-related diseases.

The results also showed a cumulative effect of age with a clear trend towards increased rate of detection of asbestos bodies with advancing age. The oldest age group had the highest positive rate at 80%. The difference of asbestos exposure between men and women in our series may be partly due to work-related secondary exposure and partly due to a higher incidence of the smoking habit in men than in women. In our study, more men than women were smokers, and the smoking habit was a significant factor in increased retention and the incidence of asbestos bodies in the lungs as shown in Table 4. Asbestos bodies were detected in 81.7% of the smokers and in 49.2% of the nonsmokers. Fifty three (74.6%) of the 71 smokers were male and 18 (25.3%) of the 71 were female. Smokers also had higher average counts of asbestos bodies in the lung (4.5 asbestos bodies/gm) than did nonsmokers (3.1/gm). In animal studies, cigarette smoking has been noted to impair the lung's ability to clear asbestos fibers,<sup>17</sup> and smoking also facilitated the penetration of asbestos into the bronchiolar wall.<sup>18</sup> This increased retention of asbestos among the smokers may contribute to the observed synergistic effects of smoking and asbestos in carcinogenesis.<sup>19</sup>

Although Honolulu is among the cleanest environments regarding incidental asbestos exposure, the public should still be reminded

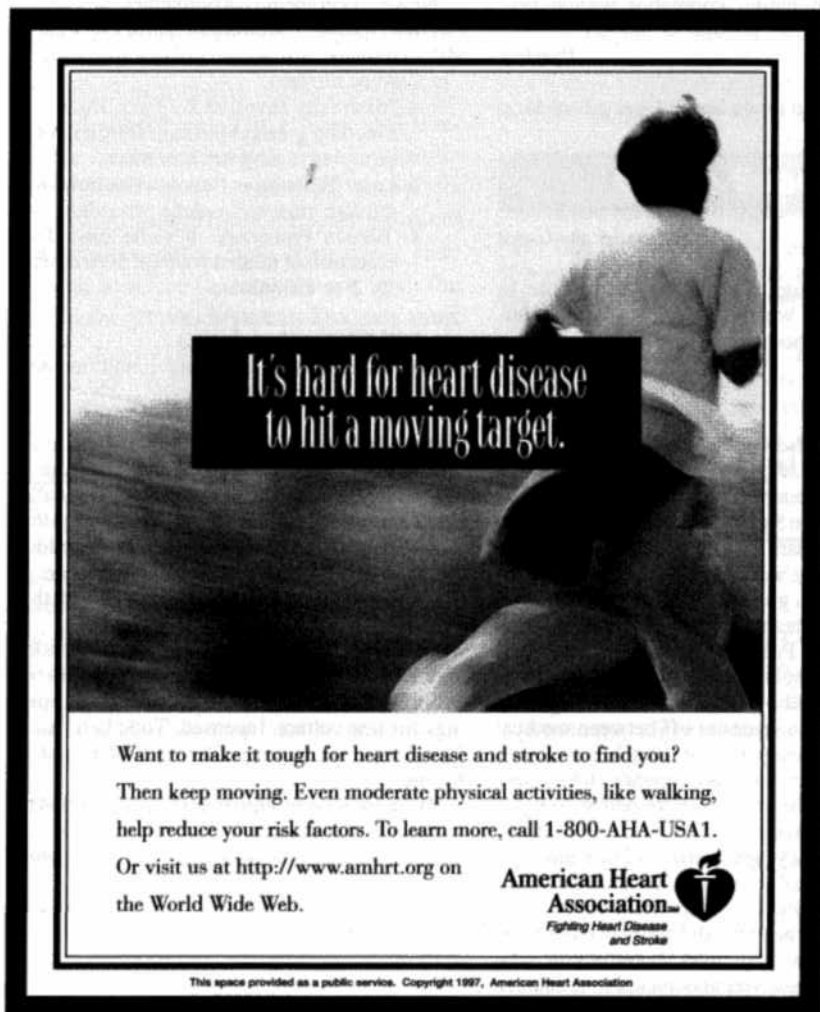
that asbestos products such as popcorn ceilings, roof tiles and many electrothermal insulating materials are still present in and around the living environment. Many houses, apartments, and school buildings in the community built before the enforcement of regulatory legislation are possible sources of environmental asbestos exposure, and the resulting low dose exposure is not completely harmless. Emphasis must be placed on strict control measures for building demolition and for continued public awareness of careful handling of these existing asbestos-containing building materials.<sup>20</sup>

## Summary

Incidental environmental asbestos exposure is inevitable anywhere in the world and this problem has generated public concern. The present study demonstrates that environmental exposure to asbestos in Honolulu is among the lowest in the nation, as compared with many cities and even rural areas on the mainland United States. In addition, our results also demonstrate that there is a cumulative effect of asbestos in the lungs with advancing age, and that cigarette smoking increases the chance of retention of asbestos in the lungs.

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## Life in These Parts Physician Moves

**February:** Internist *Diane Sakai* opened her office at Chinatown Cultural Plaza, 100 N. Beretania, Ste 201; and GP *Raymond Thompson* located at Ala Moana Blvd, 1441 Kapiolani Blvd, Ste. 1405.

**March:** Orthoped *Michael Wengler* started his practice at Queen's POB I, 1380 Lusitana St., Ste. 214.

Internist *Chew Mung Lum* retired effective Feb 28, and internist *Richard Lau Jr.* assumed the practice on March 1. Chew Mung thanked his patients, colleagues, hospital staffs and personnel for many years of gratifying practice.

Allergist *Jeffrey Kam* joined Straub King St. and Straub Pali Momi. Orthoped *Neil Thomas Katz* announced that he was moving to 302 California Ave., Ste 108, Wahiawa and to St. Francis West.

## Hors de Combat I

*Senate Bill 2583* adds new sections to the state insurance code to tighten regulation of mutual benefit societies such as HMSA and some smaller health insurance providers. The Senate bill requires these companies to act in good faith, provide accurate and complete information, take reasonable measures to prevent unfair and deceptive acts and practices and to render all services in a fair and equitable manner.

Mutual benefit societies are exempt from state, county and municipal tax, except unemployment compensation.

A Kailua-Kona couple wanted to know why HMSA paid only \$10,000 of the \$24,000 bill for an emergency appendectomy in May 1996.

Hilo pediatrician *Ruth Matsuura* testified that an insurance carrier called the surgical procedure for pectus excavatum in her 14-year-old patient as primarily cosmetic.

## Hors de Combat II

The Hawaii Supreme Court ruled that doctors and dentists must make sure that a patient understands the risks of surgery, even if they are not performing the procedure. The justices reinstated a lawsuit by a woman who said her face appeared lopsided after jaw surgery recommended by her orthodontist. The case had been thrown out of Circuit Court.

*Arlene Joaxson Meyers*, Wahiawa pediatrician and 3rd year Law student who founded the non-profit Hawaii Coalition for Health says, the referring physician may have to make sure in writing that the patient has been informed of treatment risks. Arlene acknowledges that the ruling would lead to greater liability for physicians, but then that the patients will now get the necessary information to make a decision.

## Medical Quotes

Melancholy is the pleasure of being sad.

*Victor Hugo*

There are only two sorts of doctors; those who practice with their brains, and those who practice with their tongues.

*William Osler*

We have not lost faith, but we have transferred it from God to the medical profession.

*George Bernard Shaw*

The door that is not opened for a beggar will open for a doctor.

*Talmud*

Specialist: A man who knows more and more about less and less.

*William Mayo/Nicholas Murray Butler*

The greatest discoveries of surgery are anesthesia, asepsis and roentgenology—and none was discovered by a surgeon.

*Martin Henry Fisher*

One of the first duties of a physician is to educate the masses not to take medicine.

*William Osler*

Artificial insemination: copulation without representation.

*Playboy*

A physician who treats himself has a fool for a patient.

*William Osler*

I am dying with the help of too many physicians.

*Alexander the Great*

Doctors pour drugs of which they know little, to cure diseases of which they know less, into human being of whom they know nothing.

*Voltaire*

## Dr. Hoops

*Gleaned from MidWeek, April 1, 1998*

Modest *Mark Mugiishi* has led the Iolani varsity basketball team to 2 state titles and 3 ILH championships in 5 years and was recently named Coach of the Year.

Mark claims he was never a great athlete i.e. he was on the Iolani golf team and on the intermediate basketball team. But then, he was class valedictorian, a Presidential Scholar and a National Merit Scholar. He went to Northwestern where he finished a bachelors and MD degree in 6 years. During a semester off between medical school and residency, he found that Iolani needed someone to teach 8th grade science. Iolani also needed a coach for the girls intermediate basketball. He was boys JV coach as well. When he finished residency, and started private practice, both the headmaster and athletic director asked him to be boys varsity coach. Mark says:

"Not bad for a guy who did not play ball for the Red Raiders. But sometimes if you're junk, you study the game and you understand it. It helps in teaching the game. If you're not a natural, you can

break it down and help the kids understand what they should do."

During a game, Mark is the calm at the center of the storm. "People tell me that I don't bark as much as most coaches. In the heat of the moment, chewing the kids doesn't help. I think the time to do that is in practice. Come game time it's their show. I try to give them guidance and not bark too much."

## Medical Tid Bits

**"Case Studies in GERD Management: The Era of the PPI"**

*Anthony Morreale Pharm D*, (Sponsored by Astra Merck)

re Gerd: PPI's work the best, but symptoms recur when Rx stopped:

H2 Blockers: 50% reduction of sy's.

PPI's: 90% reduction of sy's.

VA Study: Prilosec 20 preferred over Prevacid 30 and more cost effective.

All H2 blockers are the same.

Gerd Therapy: PPI's better than fundal plication.

"Newer Therapeutic Approaches in Cardiovascular Disease" Cardiologist *Stanley Kawanishi MD*

re Cardiac Surgery:

- Minimally Invasive By Pass: Danger of bleeding 1-2 days postop; Note: heart still pumping during the procedure.
- Laser Technique: Punches fine holes into cardiac muscles; a niche procedure.
- Batista Procedure: a niche procedure; resection of dilated portion; 50% mortality 2' to arrhythmia

re JNC 6 (prevailing theme)

Hypertension with comorbid conditions need more aggressive therapy.

## Miscellany

Mac and Todd, two brothers went together to an employment agency for work. Mac was called first for an interview. "It says here you're a pilot," said the employment counselor. Mac nodded. "Well, that's great. They need experienced pilots. I have a job for you immediately." With that, Mac left for the airfield.

Todd's interview didn't go as well. When asked about his work experience, he replied, "I'm a tree cutter." The counselor said there were no openings for tree cutters. Incensed, Todd demanded, "How come you have a job for my brother and not for me?"

"Because your brother is a pilot," explained the counselor. "He has a specialized skill."

"What do you mean specialized? I cut the wood and he piles it!"

*(Gleaned from Readers Digest Feb '96)*



schools.

The annual budget for the School of Medicine is approximately \$54 million. About \$16 million are from State General Funds. Twenty-three million dollars are derived from research and training grants and an additional \$15 million are generated by medical school faculty from not-for-profit research institutes in local community hospitals and medical centers. The total external funding amounts to \$38 million per year.

In addition, through contracts and its collaborative relationships with the community teaching hospitals and Hawaii's health care industry, the medical school receives about \$35 million. This is a mutually beneficial relationship in which the medical community gains from the presence of the medical school and the bedside training of medical students and 14 post M.D. residency and fellowship training programs. Every dollar spent by the State on the School of Medicine attracts \$2.50 of external funding and an additional \$2.50 in community support.

In an effort to assist with support of the medical school, student tuition will continue to increase. Presently, resident tuition is \$11,000/year. Non-resident tuition is \$24,000. Although these amounts are about average or slightly lower than many state schools, medical students do not have the time to accept employment. Students must rely on scholarships, student loans, and financial aid.

### Community and Outreach Activities:

In 1997, JABSOM completed the Pacific Basin Medical Officers Training Program which was located in Pohnpei, Federated States of Micronesia. Seventy-one graduated as medical officers and have been placed for service throughout Micronesia and American Samoa. Other community outreach projects include the Postgraduate Medical Education Program financed by the Okinawa Prefecture Government at Chubu Hospital in Okinawa where JABSOM administers a residency training program for graduates of Japanese medical schools; the Imi Ho'ola Program, a one-year post BA enrichment program for disadvantaged minority students; the Ke Ola O Hawaii, Inc. Community Partnership Program to increase

To place a classified notice:

HMA members.—Please send a signed and typewritten ad to the HMA office. As a benefit of membership, HMA members may place a complimentary one-time classified ad in HMJ as space is available.

Nonmembers.—Please call 536-7702 for a nonmember form. Rates are \$1.50 a word with a minimum of 20 words or \$30. Not commissionable. Payment must accompany written order.

### Misc.

**Latex Glove Relief.**—Free evaluation sample of gel reducing irritation from latex, nitrile and vinyl gloves. Limit 1 per Hawaii member's office. Call and record complete address or send business card to Sahara Cosmetics, ph 808-735-8081, P.O. Box 10869, Honolulu, HI 96816-0869 USA.

### Announcement

**Idyllic Maunaloa, Molokai.**—New medical facility for future clinic. Generous rent concessions for operator offering basic medical services for growing small town community. Call Molokai Ranch Land Co. 1-800-254-6256.

**New Service.**—AESTHETICA Plastic and Laser Surgery Center is pleased to announce the incorporation of Ultrasonic-assisted Liposuction into the practice. Call 536-8866 or (800) 488-9855 for information.

**Family Practice or Internal Medicine Physician wanted.**—in Kapaa, Kauai (Board Certification or elig) Paul T. Esaki MD, 4-1461 Kuhio Hwy., Kapaa, Kauai, HI 96746. (808) 822-9886 Fax (808) 822-0938.

### Office Space

**Pearl City Business Plaza.**—Tenant Improvement Allowances for Long Leases; 680+ sq ft; 24-hr security; free tenant/customer pkg; Gifford Chang 581-8853 DP, 593-9776, 531-3526.

**Aiea Medical Office Space for Lease or Share.**—Near Pali Momi hospital. 300 to 1000 sq ft. Excellent for branch office or specialty use. Call Dr. Wong at 487-7938.

**Office Space for Rent.**—769 sq ft, 3538 Waiialae Avenue, Rm 203, Call 732-0441.

primary health care in Hawaii's medically underserved areas; the Geriatric Education Center; the Center of Excellence for Disaster Medicine; and the Native Hawaiian Center of Excellence

The School of Medicine continues to make a valuable contribution to the State, the medical community and the Pacific Basin. It is an excellent bargain, generating financial support and jobs. It is an example of a partnership of resources between a medical school and a community which deserves to be recognized and protected.

## Classified Notices

### Locum Tenens

**Board Certified family practitioner.**—Available for short term practice coverage. Liability insurance provided. Please contact: V. Braslavsky, MD (913) 383-3285. <http://www.concentric.net/~locumdr/1.htm>.

### For Sale

**For Sale.**—Outstanding outpatient psychiatric practice in Kailua-Kona on the Big Island. 30 hrs/wk and could increase significantly if desired. No Medicaid; fee for service only. Available late June or July, 1998. Call (808) 329-5815.

**Baby Scales For Sale.**—One almost new \$100., one brand new \$120. Call 533-2334.

**Practice for Sale.**—General Practice in Wahiawa. Reasonable. Serious inquires only. Call 734-1016.



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